

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-23 (Cancelled).

Claim 24. (Currently Amended): An information processing apparatus comprising:
encoding means for encoding an input stream so as to include, among a base stream
and at least one extension stream having extensibility for the base stream, at least the base
stream and a first extension stream;
adding means for adding transport priority information that indicates priority and
respectively distinguishes the base stream from the at least one extension stream, which are
encoded by the encoding means, to the base stream and the at least one extension stream; and
packetizing means for packetizing the base stream and the at least one extension
stream, to which the transport priority information is added by the adding means, into distinct
TS packets,

wherein the encoding means encodes the first TS packets forming the base stream and
the second TS packets forming the at least one extension stream, which are included in the
input stream, so that the first and second TS packets, to be played back at the same time, are
arranged in sequence in the order of the first TS packets forming the base stream and the
second TS packets forming the at least one extension stream and such that the first TS
packets forming the base stream and the second TS packets forming the at least one extension
stream are interleaved.

Claim 25. (Currently Amended): An information processing method implemented
using an information processing apparatus having at least encoding and packetizing parts,
comprising:

an encoding step of encoding, using the information processing apparatus, an input stream so as to include, among a base stream and at least one extension stream having extensibility for the base stream, at least the base stream and a first extension stream;

an adding step of adding transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream, which are encoded by the encoding step, to the base stream and the at least one extension stream; and

a packetizing step of packetizing, using the information processing apparatus, the base stream and the at least one extension stream, to which the transport priority information is added by the adding step, into distinct TS packets,

wherein the encoding step encodes the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the input stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 26. (Currently Amended): A non-transitory computer readable medium having stored thereon a program that when executed by the computer causes the computer to execute an information processing method comprising:

an encoding step of encoding an input stream so as to include, among a base stream and at least one extension stream having extensibility for the base stream, at least the base stream and a first extension stream;

an adding step of adding transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream, which are encoded by the encoding step, to the base stream and the at least one extension stream; and a packetizing step of packetizing the base stream and the at least one extension stream, to which the transport priority information is added by the adding step, into distinct TS packets,

wherein the encoding step encodes the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the input stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 27. (Currently Amended): An information processing apparatus comprising:
input means for inputting a stream including first TS packets forming a base stream, and second TS packets forming at least one extension stream having extensibility for the base stream, each of the first and second TS packets being distinct and having transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream;

determining means for referring to the transport priority information stored in the first and second TS packets input by the input means and for determining the type of processable stream;

selecting means for selecting, from the stream, the first and second TS packets having the transport priority information associated with the stream determined by the determining means to be processable; and

decoding means for decoding the first and second TS packets selected by the selecting means,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 28. (Previously Presented): The information processing apparatus according to claim 27, further comprising:

buffering means for buffering, with respect to the transport priority information, the TS packets selected by the selecting means.

Claim 29. (Currently Amended): An information processing method implemented using an information processing apparatus having at least a decoding part, comprising:

an input step of inputting a stream including first TS packets forming a base stream, and second TS packets forming each of at least one extension stream having extensibility for the base stream, each of the first and second TS packets being distinct and having transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream;

a determining step of referring to the transport priority information stored in the first and second TS packets input by the input step and determining the type of processable stream;

a selecting step of selecting, from the stream, the first and second TS packets having the transport priority information associated with the stream determined by the determining step to be processable; and

a decoding step of decoding, using the information processing apparatus, the first and second TS packets selected by processing in the selecting step,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 30. (Currently Amended): A non-transitory computer readable medium having stored thereon a program that when executed by the computer causes the computer to execute an information processing method comprising:

an input step of inputting a stream including first TS packets forming a base stream, second TS packets forming each of at least one extension stream having extensibility for the base stream, each of the first and second TS packets being distinct and having transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream;

a determining step of referring to the transport priority information stored in the first and second TS packets input by the input step and determining the type of processable stream;

a selecting step of selecting, from the stream, the first and second TS packets having the transport priority information associated with the stream determined by the determining step to be processable; and

a decoding step of decoding the first and second TS packets selected by processing in the selecting step,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 31. (Currently Amended): A non-transitory computer readable medium having stored thereon a data structure of an entire stream to be played back by a computer, the entire stream including a base stream and at least one extension stream having extensibility for the base stream,

wherein the entire stream includes:

first TS packets forming the base stream,

second TS packets forming each of the at least one extension stream, and

a header of each of the first TS packets forming the base stream and the second TS packets forming each of the at least one extension stream includes an ID identifying the distinct TS packet, and

wherein the first and second TS packets each include transport priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream.

Claim 32. (Currently Amended): The non-transitory computer readable medium according to claim 31, wherein

the first TS packets forming the base stream and the second TS packets forming each of the at least one extension stream, which are included in the entire stream, are arranged in sequence of the first and second TS packets to be played back at the same time and in the order of the first TS packets forming the base stream and the second TS packets forming each of the at least one extension stream.

Claim 33. (Currently Amended): An information processing apparatus comprising:
encoding means for encoding at least a base stream of an entire stream that may include the base stream and at least one extension stream having extensibility for the base stream;

first adding means for adding a same first ID to the stream encoded by the encoding means among the base stream and the at least one extension stream, the first ID identifying the entire stream;

second adding means for adding transport priority information to, among the base stream and the at least one extension stream, the stream encoded by the encoding means, the transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream; and

a packetizing means for packetizing the base stream and the at least one extension stream, to which the first ID and the transport priority information are added by the first adding means and the second adding means, into distinct TS packets,

wherein the encoding means encodes the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 34. (Cancelled).

Claim 35. (Previously Presented): The information processing apparatus according to Claim 33, wherein

when any of synchronization units of the at least one extension stream corresponding to synchronization units of the base stream are present, the encoding means encodes, among

the at least one extension stream, the extension stream having the present synchronization units of the base stream.

Claim 36. (Previously Presented): The information processing apparatus according to Claim 35, wherein

when any of the synchronization units of the at least one extension stream corresponding to the synchronization units of the base stream are present, the encoding means encodes, among the at least one extension stream, the extension stream having the present synchronization units and the base stream and does not encode the extension stream having none of the present synchronization units, thereby encoding the entire stream using variable bit rate.

Claim 37. (Currently Amended): An information processing method implemented using an information processing apparatus having at least encoding and packetizing parts. comprising:

an encoding step of encoding, using the information processing apparatus, at least a base stream of an entire stream that may include the base stream and at least one extension stream having extensibility for the base stream;

a first adding step of adding a same first ID to the stream encoded by the encoding step among the base stream and the at least one extension stream, the first ID identifying the entire stream;

a second adding step of adding transport priority information to, among the base stream and the at least one extension stream, the stream encoded by the encoding step, the transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream; and

a packetizing step of packetizing, using the information processing apparatus, the base stream and the at least one extension stream, to which the first ID and the transport priority information are added by the first adding step and the second adding step, into distinct TS packets,

wherein the encoding step encodes ~~the~~ first TS packets forming the base stream and ~~the~~ second TS packets forming the at least one extension stream, which are included in the entire stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 38. (Currently Amended): A non-transitory computer readable medium having stored thereon a program that when executed by the computer causes the computer to execute an information processing method comprising:

an encoding step of encoding at least a base stream of an entire stream that may include the base stream and at least one extension stream having extensibility for the base stream;

a first adding step of adding a same first ID to the stream encoded by the encoding step among the base stream and the at least one extension stream, the first ID identifying the entire stream;

a second adding step of adding transport priority information to, among the base stream and the at least one extension stream, the stream encoded by the encoding step, the transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream; and

a packetizing step of packetizing the base stream and the at least one extension stream, to which the first ID and the transport priority information are added by the first adding step and the second adding step, into distinct TS packets,

wherein the encoding step encodes the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 39. (Currently Amended): An information processing apparatus comprising:
input means for inputting an entire stream that includes at least one of first TS packets forming a base stream and second TS packets forming each of at least one extension stream having extensibility for the base stream the first and second TS packets being distinct;
selecting means for selecting, from the entire stream, first and second TS packets based on a first ID used to identify the entire stream, transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream, and a predetermined condition set in advance, the first ID and the transport priority information being stored in each of the first and second TS packets input by the input means; and

decoding means for decoding the first and second TS packets selected by the selecting means,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, are

encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 40. (Currently Amended): The information processing apparatus according to Claim 39, wherein

the entire stream is input to the input means including the TS packets arranged in sequence of the first and second TS packets to be played back at the same time and in the order of the first TS packets forming the base stream and the second TS packets forming each of the at least one extension stream.

Claim 41. (Previously Presented): The information processing apparatus according to Claim 39, wherein

the entire stream input to the input means at least includes an encoded base stream, and further includes the at least one extension stream which correspond to synchronization units of the base stream and which are encoded using variable bit rate.

Claim 42. (Currently Amended): An information processing method implemented using an information processing apparatus having at least a decoding part, comprising:

an input step of inputting an entire stream that may include first TS packets forming a base stream and second TS packets forming each of at least one extension stream having extensibility for the base stream, the first and second TS packets being distinct;

a selecting step of selecting, from the entire stream, first and second TS packets based on a first ID used to identify the entire stream, transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream, and a predetermined condition set in advance, the first ID and the transport priority information being stored in each of the first and second TS packets input by processing in the input step; and

a decoding step of decoding, using the information processing apparatus, the first and second TS packets selected by processing in the selecting step,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 43. (Currently Amended): A non-transitory computer readable medium having stored thereon a program that when executed by the computer causes the computer to execute an information processing method comprising:

an input step of inputting an entire stream that may include first TS packets forming a base stream and second TS packets forming each of at least one extension stream having extensibility for the base stream, the first and second TS packets being distinct;

a selecting step of selecting, from the entire stream, first and second TS packets based on a first ID used to identify the entire stream, transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension

stream, and a predetermined condition set in advance, the first ID and the transport priority information being stored in each of the first and second TS packets input by processing in the input step; and

a decoding step of decoding the first and second TS packets selected by processing in the selecting step,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 44. (Currently Amended): A non-transitory computer readable medium having stored thereon a data structure of an entire stream to be played back by a computer, wherein the entire stream includes at least one of a base stream and at least one extension stream having extensibility for the base stream,

the entire stream includes:

first TS packets forming the base stream; and

second TS packets forming, when any of synchronization units of the at least one extension stream corresponding to synchronization units of the base stream are present, among the at least one extension stream, the extension stream having the present synchronization units, the first and second TS packets being distinct; and

a header of each of the first TS packets forming the base stream and the second TS packets forming each of the at least one extension stream includes:

a first ID used to identify the entire stream; and
 transport priority information indicating priority and respectively
 distinguishing the base stream from the at least one extension stream,
 wherein the first TS packets forming the base stream and the second TS packets
 forming the at least one extension stream, which are included in the entire stream, are
 encoded so that the first and second TS packets, to be played back at the same time, are
 arranged in sequence in the order of the first TS packets forming the base stream and the
 second TS packets forming the at least one extension stream and such that the first TS
 packets forming the base stream and the second TS packets forming the at least one extension
 stream are interleaved.

Claim 45. (Currently Amended): The non-transitory computer readable medium
according to claim 44, wherein

 the first TS packets forming the base stream and the second TS packets forming each
 of the at least one extension stream, which are included in the entire stream, are arranged in
 sequence of the first and second TS packets to be played back at the same time and in the
 order of the first TS packets forming the base stream and the second TS packets forming each
 of the at least one extension stream.

Claim 46. (Currently Amended): The non-transitory computer readable medium
according to claim 44, wherein

 the entire stream at least includes the base stream, and further includes the second TS
 packets forming the at least one extension stream corresponding to the synchronization units
 of the base stream, the number of the second TS packets being variable.

Claims 47-60 (Cancelled).

Claim 61 (Currently Amended): An information processing apparatus, comprising:
an encoding unit implemented by a central processing unit and configured to encode
an input stream so as to include, among a base stream and at least one extension stream
having extensibility for the base stream, at least the base stream and a first extension stream;
an adding unit configured to add transport priority information that indicates priority
and respectively distinguishes the base stream from the at least one extension stream, which
are encoded by the encoding unit, to the base stream and the at least one extension stream;
and

a packetizing unit configured to packetize the base stream and the at least one
extension stream, to which the transport priority information is added by the adding unit, into
distinct TS packets,

wherein the encoding unit is further configured to encode the first TS packets forming
the base stream and the second TS packets forming the at least one extension stream, which
are included in the input stream, so that the first and second TS packets, to be played back at
the same time, are arranged in sequence in the order of the first TS packets forming the base
stream and the second TS packets forming the at least one extension stream and such that the
first TS packets forming the base stream and the second TS packets forming the at least one
extension stream are interleaved.

Claim 62 (Currently Amended): An information processing apparatus, comprising:
an input unit configured to input a stream including first TS packets forming a base
stream, and second TS packets forming at least one extension stream having extensibility for
the base stream, each of the first and second TS packets being distinct and having transport

priority information that indicates priority and respectively distinguishes the base stream from the at least one extension stream;

 a determining unit configured to refer to the transport priority information stored in the first and second TS packets input by the input unit and for determining the type of processable stream;

 a selecting unit configured to select, from the stream, the first and second TS packets having the transport priority information associated with the stream determined by the determining unit to be processable; and

 a decoding unit implemented by a central processing unit and configured to decode the first and second TS packets selected by the selecting unit,

 wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 63 (Currently Amended): An information processing apparatus, comprising:
 an encoding unit implemented by a central processing unit and configured to encode at least a base stream of an entire stream that may include the base stream and at least one extension stream having extensibility for the base stream;
 a first adding unit configured to add a same first ID to the stream encoded by the encoding unit among the base stream and the at least one extension stream, the first ID identifying the entire stream;

a second adding unit configured to add transport priority information to, among the base stream and the at least one extension stream, the stream encoded by the encoding unit, the transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream; and

a packetizing unit configured to packetize the base stream and the at least one extension stream, to which the first ID and the transport priority information are added by the first adding unit and the second adding unit, into distinct TS packets,

wherein the encoding unit is further configured to encode the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.

Claim 64 (Currently Amended): An information processing apparatus comprising:
an input unit configured to input an entire stream that includes at least one of first TS packets forming a base stream and second TS packets forming each of at least one extension stream having extensibility for the base stream, the first and second TS packets being distinct;
a selecting unit configured to select, from the entire stream, first and second TS packets based on a first ID used to identify the entire stream, transport priority information indicating priority and respectively distinguishing the base stream from the at least one extension stream, and a predetermined condition set in advance, the first ID and the transport priority information being stored in each of the first and second TS packets input by the input unit; and

a decoding unit implemented by a central processing unit and configured to decode the first and second TS packets selected by the selecting unit,

wherein the first TS packets forming the base stream and the second TS packets forming the at least one extension stream, which are included in the entire stream, are encoded so that the first and second TS packets, to be played back at the same time, are arranged in sequence in the order of the first TS packets forming the base stream and the second TS packets forming the at least one extension stream and such that the first TS packets forming the base stream and the second TS packets forming the at least one extension stream are interleaved.